

Issue 126

PS
★

TME Series

THE PREVENTIVE MAINTENANCE MONTHLY



GULP!
I can't even get my own car to run properly any more.

PREVENTIVE
MAINTENANCE

IF YOU WANT
TO SAVE MONEY
ON YOUR CAR
SEE PAGE 12

PUT YOURSELF IN HIS PLACE



You and your inspector are made one team team. As it takes to get the team working together is a little understanding and respect for the other guy's job.

In other words, when it comes to your equipment, put yourself in your inspector's shoes. Ask yourself, "How if I was an inspector,

what things on the truck or tank, or tractor, or motor, you would expect to be 100 percent? What are the things that need?"

That 100 of yours can be a great help in finding those things not, and any time you get stuck, call your supplier's desk. They'll want to help to give you a hand.

One more thing. When you put yourself in your inspector's shoes, remember that he's not interested in "catastrophes." Of course, the equipment should be clean, that's only part of good maintenance.

But, never explain a part just because it looks a bit worn. Ask yourself,

"Does this part have more life in it?"

"Will it affect safety?"

If the answer to the first question is "Yes," and the answer to the second question is "No," leave that part be.

In the long run your inspector will get happier and you'll not be making a lot of effort on maintenance with your equipment that not need.

**THE
INSIDERS
MONTHLY**

Volume 10 No. 100 (1981) \$3.00

Editorial: An Examination of the Big for the Small...
 The Use of Synthetic Lubricants in Diesel Engines...
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Get your truck
 24 hours
 24 hours
 24 hours

Right to left, you'll see the fuel tank, the carburetor, the engine, the exhaust manifold, and the muffler.

M-6C

part II



A while ago you got the A B C's on getting to know the M60. Now, here are a few P's and Q's on easy living with your M60. Later we'll hook off with the X Y Z's on how to keep your M60 healthy.



Portable, 1-1/2 horsepower on average, perfect under power's seat.
The M60 has two—boom—two—two independent systems of fuel distribution, both fed by the three 18-18 cylinders forward of the driver's seat.



Soak off the front cover, pull the control handle near the driver, or the handle marked for BERTY inside the tank. This'll discharge one of the three cylinders.

If you pull the far BERTY handle inside the tank, it also cuts off the fuel supply to the engine. The far BERTY handle inside the tank does not do this.

Whether you pull the far BERTY from inside or outside the tank, the carbon

deposit you collect out of the cylinder into a slim delay bottle. Then, after a 10-second delay to let the carbon die, it discharges through the perforations in the engine compartment. The engine has to be off to keep the fan from blowing away the carbon deposit before it can get out the line.

The shut-off valve is controlled only on the control handle inside the tank. This is because there should always be somebody inside the tank when the engine's running. And if there's nobody in the tank, the engine should not be running.



If the far BERTY doesn't pop over the line, pull the handle marked far BERTY from the inside or pull the handle at the driver's position straight back. This discharges the fuel to the cylinders. Winked any of this just show me the handle a quarter turn before pulling off the second shot. With the new technique, pulling straight back will do the work.



There are warning records on top of the cylinders as you can pull off both **SAFETY** caps if something goes wrong with the incorrect control handle.



If you're inside the tank when a fire breaks out in the engine compartment, push in the fuel shut-off valve handle, and flip **OFF** the master switch. Before you pull the **In-SHUTT** and hop out.



You have to handle containers like egg crates. Never jar, bump or drop them.

These cylinders must be reweighed at every quarterly inspection or whenever a seal is broken, or when you think the cylinder might've been discharged. If the weight of a cylinder's contents is more than 10 per cent down of what it should be, have it recharged.



REFILLING



The pump for refilling from 15-gal drums is started on the side of the tower basket. Some models use form of filling from 5-gal cans by passing two cans at once. Of course they have to follow the same course because you get only one in the **GRAB**. When using 5-gal cans, be on the lookout for water and dirt. **USE SPECIAL MIXING**



Use the same safety precautions that you would with gasoline.

On the first filling, the tanks take 100 gallons, but afterward you figure about 150 gallons for a complete refill.



Both tanks are filled at the same time from the fuel filler opening on the right side of the tank. Use the fuel filler open-

ing on the left only for emergencies.

ICE SUPPORT
(SIF)



WATER IN FUEL LINES

WATER IN FUEL LINES
IS NOT GOOD!



Water is OK, where it belongs, in a fire or a bath tub, or even in a non-rodent manure—but it doesn't do any good in the fuel tanks of your M551.

The water gets there all by itself from condensation. It's your job to draw it out or let it escape the fuel injection system.

To get the water out of the fuel tanks you do this—hook the portable fuel pump hoses to each end of the pump. Get adapter P/N 2990-4990-1462 from your O&M and screw it into the open end of your machine hose. Remove the nozzle that's already there.

Pull out the quick disconnect plug from the condenser opening on your fuel tanks. This plug is attached by a chain to the cooling unit housing. You get it out by pushing down on the



inserted collar and pulling the plug straight up. Insert the adapter on the end of your machine hose into the opening from which you took the quick disconnect plug—and you're in business to start pumping.



Man the pump... at first you may get non-condensed water and then clear water, but keep on until you get nothing but fuel coming from your discharge hose.

Do this on both the right and the left fuel tanks to leave none a week or before you put a week that's been sitting around for a long time into operation.

Be sure you get both the left and the right fuel tanks. You can't get all the water out through one opening.



FUEL FILTERS

A primary filter is mounted on the right front face of the engine and a secondary filter (wax filter) on the left front face of the engine.



PRIMARY FILTER: In cold weather you drain water from the primary filter every day before you start out. You can reach the petcock on the bottom of the filter through the upper access plate on the engine compartment bulkhead. Leave the petcock open for a couple seconds. Use a hose to water and fuel won't drain from the engine compartment.



If you're a truck owner, you drain the primary fuel filter, but that's all. Replacing the element and other servicing is done by your company mechanic. This filter, when taken apart, must be reassembled just like the T20 says. If the parts are not put back together right you'll have a mighty sick filter on your hands.



SECONDARY FILTER: When a new (or an overhauled) engine is started for the first time you bleed the secondary filter to let out the trapped air. You may also have to do this if the engine is dry (an engine that's been drained of all fuel).

Aside from these cases, the crew members don't have to touch the secondary fuel filter. The company mechanic services it and, when necessary, the filter element is replaced by your fuel cabinet support unit.

WAXERS:



The M20 has six 300 amp-hour type 6-TN water-proof batteries connected in series-parallel. They're under the crew compartment platform. Keep their water level about 1/2 inch above plates.

Your corrected hydrometer reading should be around 1.281 for a fully charged battery. Always recharge when specific gravity reading drops to 1.275. If any individual battery shows a reading spread of over 21 points, replace that battery. This is important. Having matched sets of batteries is more necessary with the 8000 than with most other vehicles.



In removing batteries, always use high ground cables. This is to keep your positive cable from arcing when being removed.

Master control switch must be OFF. When installing batteries, lock up ground cables first... and always follow the battery installation diagram in your '80 TM.



BATTERY INDICATOR:

Instead of an indicator light, the 8000 has a Battery-Generator indicator on the instrument panel that is divided into four parts, as the gauge reads from your left to right—red, yellow, green,

and. This indicator is read *normal*. For instance, when you flip ON the master switch and find the gauge needle moves into the left red, it's telling you that your batteries are too low to start the truck.



The needle should be in the yellow part to start. However, if it stays there when you have your truck at a full idle,



your generator's not charging. The needle should move into the green if the generator's working right.



If it's impossible for the bus to arrive right and just after you've had a reasonable time to build up the battery charge again, your generator is overcharging. Make sure your fuel solenoid supports such losses about this condition.



If you find your generator won't charge, it may have loose terminals or fuses in the main wiring harness assembly. Get your company mechanic to check it out for you.



GAGE INDEX

It might help to know how your gauges read when the device they are on is grounded or open.



All pressure gauges will read high if they're broken.



All temperature gauges will read low if they are broken.



... regardless of the real condition of the tank.



GENERATOR

The 500-watt generator on the M10 is waterproof and the generator drive shaft has been treated to give more torque at a lower RPM. It is cooled by ducted air, and has its own fan motor. You find the duct inlet behind the crew compartment lower access plate.



Right after you start your engine, check to be sure the generator fan motor is running. If a stack of rag or paper will stick to the duct inlet by suction, the fan motor is running. If the



fan motor won't run, shut off the engine and find out why.

AIR INTAKE

The air cleaners on the engines are fed by recirculating fans, which normally draw the air from the crew compartment. If you restrict the air intake



NORMAL - ALL
COMBUSTION
AIR FROM
CREW COMPARTMENT



WARNING FOR COLD
WEATHER - AIR
FROM ENGINE
COMPARTMENT



restrict, the air will be drawn from the engine compartment, which is how you would want it in cold weather.



AIR CLEANER

The air cleaners on your 458F will see the best in the business—up to 99 per cent efficiency—but they need your help.

A sign-off that they're not working right is black engine smoke and loss of engine power.

In deep snow, clean 'em as often as they need it without waiting for the regular Q-1780-miled servicing.



To check your cleaners, run the engine, then get up on the ladder and hand-feed the ramblower-matras on each cleaner to make sure they're pushing the air out the discharge elbows.

If a motor's not running and you can't make it run by checking over the electrical connections, call your cab mechanic to replace the motor.

Get plugged before coming to start

If the motors are OK, shut the engine off, climb down to the ground and un-screw the access door lock so you can open the door. The cleaner won't work right if the gaskets on this door is not



right. If the gasket leaks, replace it with a new one, and by cementing the new gasket in place with Adhesive Type 11. (See job card F24 8049-228-11173).

To take out the first plug, turn the lower rod a half turn and pull out the filter element. Shut the access door to keep dirt out of the compartments while you make your inspection.



Next, ... look for these plugs along the side of the air cleaner.



First you uncover the lower plug. This is the Mower assembly drain plug. Let out any water and clean out the dirt before you put the plug back.



Next you take out the plug nearest the top; you have just worked on. This is one of the dust chamber inspection ports plugs and the other dust chamber inspection ports plug is already over it near the top of the housing.



Shine a flashlight in the hole and see if there has built up above the bottom row of ribs.



If the dirt has built up, uncover the top plug, and use a compressed air hose to blow the dirt out the bottom plug. This'll work better if you put the filter pack back in, shut the access door and leave the Mower motor running when you do it. Of course the Mower motor won't work unless the engine's running.

These plugs are stubborn to get out as is the air cleaner housing. You'll have to cover them in and out a lot so be careful not to strip the threads. It is a good idea to wash a little graphite grease (3M 9996-201-4894) into the plug threads every time you get the chance.



Every other Q service (1,500 miles) give the air filter bags good going treat.

You do this by removing the bag from the filter housing assembly and blowing out the spaces between the bags.



These stacks is like a rug, and all the loose dirt is gone. Don't bang the bag against anything because it's not built to take much banging.

You can also clean it with compressed air. Use a pressure hose with a 1/4-in nozzle . . . and use over 100 PSI of air.

If it is really dirty, wash it in hot or cold water, with or without a non-bleeding detergent.

Don't use steam because the bag can't take temperatures over 200°.



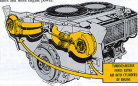
TURBOCHARGER

side of
each
cylinder



It's actually *two* wheels on a common shaft

The two turbochargers on the M40 pop up the engine by forcing extra air into the cylinders. This works like m... exhaust gas spins a turbine attached to an air compressor wheel. The compressor wheel picks up the air that comes from the cleaners and gives it a big push. So you wind up with more air in the cylinders and more engine power.



TURBOCHARGERS
USE EXTRA
AIR WITH O'RINGS
OF RUBBER

If your air cleaners get clogged up, the turbochargers run too hot and may break down. In other words... keep the air cleaners clean.

Keep stuff like mud, holes, pieces of wire, and other junk from going through either the turbine or the compressor side. Cover both the air intake and the exhaust systems whenever it has to be removed from the turbocharger for any reason. Look for stuff that might work loose and feel things up.

The oil drain line from the turbochargers must be kept open and free

from kinks. Any kink in the air intake or the exhaust system can slow down the turbochargers, so see that everything is right, tight and bright.

After the exhaust passes through the turbine, it's then led out the rear engine area down. With a strap like that you don't need a muffler, so the M40 (don't) have any.



ELECTRICAL

There may be times when you'd like to give it back to the Indians. Like when you're trying to match up 120's and connectors for your Douglas water-pump electrical connection system (i.e., 1-800-933-576-1000).

You just can't seem to get the 300 3-4-1000-900L, your 0800 7 00015, the repair parts list, and the package to read the instructions.

Here's a chart that should help you do some matching... and help get you the right parts.

THESE SET-UPS FOR



REPAIR KIT (DOUGLAS)



LOOK AT THIS KIT TO GET THE BEST QUALITY REPAIR PARTS FOR YOUR DOUGLAS WATER PUMP.

12-GAUGE CABLE



THESE SET-UPS FOR



14-GAUGE CABLE












THESE SET-UPS FOR



16-GAUGE CABLE



<p>ITEM CODE SEE THIS</p>	<p>SEE P.A. 2000-2001 Get 'em by these P.O.'s and Manufacturers</p>	<p>It says this on the package</p>	<p>The Call # you'll call for this</p>
<p>①</p> 	<p>2912-892-1544 S&W, Canada Ltd</p>	<p>8004-821594 Bulb, Tennis</p>	<p>11-800-388-724 or 800-388-4288 or 800-857-0000 S&W, ELECTRONIC CORPORATION</p>
<p>②</p> 	<p>2912-892-1542 S&W, Canada Ltd</p>	<p>8004-827009 Bulb, with Connector</p>	<p>8004-821594 S&W</p>
<p>③</p> 	<p>2912-892-1542 S&W, ELECTRONIC CORPORATION 14 2912 1542</p>	<p>8004-827009 Terminal</p>	<p>8004-827009 or 8004-827009 S&W, ELECTRONIC CORPORATION</p>
<p>④</p> 	<p>2912-892-1542 S&W, ELECTRONIC CORPORATION 14 2912 1542</p>	<p>8004-827009 Terminal</p>	<p>8004-827009 or 8004-827009 S&W, ELECTRONIC CORPORATION</p>
<p>⑤</p> 	<p>2912-892-1542 S&W, ELECTRONIC CORPORATION 13 2912 1542</p>	<p>8004-827009 Terminal</p>	<p>8004-827009 S&W</p>
<p>⑥</p> 	<p>2912-892-1542 S&W, CANADA LTD 14 2912 1542</p>	<p>8004-827009 Terminal, Connector</p>	<p>8004-827009 S&W</p>
<p>⑦</p> 	<p>2912-892-1542 S&W, CANADA LTD 14 2912 1542</p>	<p>8004-827009 Terminal, Connector</p>	<p>8004-827009 S&W</p>
<p>⑧</p> 	<p>2912-892-1542 S&W, CANADA LTD 13 2912 1542</p>	<p>8004-827009 Terminal, Connector</p>	<p>8004-827009 or 8004-827009 S&W</p>
<p>⑨</p> 	<p>2912-892-1542 S&W, CANADA LTD</p>	<p>8004-827009 Connector</p>	<p>8004-827009 S&W, ELECTRONIC CORPORATION</p>

PART NUMBER AND DESC.	PART # FROM OTHER CAT' used by these PARTS and Manufacturers	If any fit on the package	The part # PART's will use this
	H04-024-0100 CONNECTOR	H04-024-0100 Latching, Cable Cl	H04-024-0100 H04-024-0100
	H04-024-0100 H04-024-0100	H04-024-0100 Latching	H04-024-0100 or H04-024-0100 or H04-024-0100 H04-024-0100
	H04-024-0100 H04-024-0100	H04-024-0100 Latching	H04-024-0100 or H04-024-0100 H04-024-0100 H04-024-0100
	H04-024-0100 H04-024-0100	H04-024-0100 Latching, Terminal	H04-024-0100 or H04-024-0100 H04-024-0100 H04-024-0100
	H04-024-0100 H04-024-0100	H04-024-0100 Latching, Any	H04-024-0100 or H04-024-0100 H04-024-0100
	H04-024-0100 H04-024-0100	H04-024-0100 Latching, Terminal	H04-024-0100 H04-024-0100
	H04-024-0100 H04-024-0100	H04-024-0100 Latching, Terminal	H04-024-0100 H04-024-0100
	H04-024-0100 H04-024-0100	H04-024-0100 Latching, Terminal	H04-024-0100 H04-024-0100

Genie Tools's

"Froggy" brake screws

MADE IN GREAT BRITAIN



Get nightmares from driving in slip and scum? Or from crossing creeks with no bridges, or from maneuvering where rain pours from a hood and into you and a hat and kills you the next?

If that's your life now and you're driving a Hydro-Master GT40-series 15-ton truck with brakes that haven't been checked lately, your nightmares may be just beginning.

Most GT40-series vehicles were loaded with disengaged or rusted-on-plate service brake adjusting screws. And after a bit of sloppy work, loading and dump weather, rust and corrosion set in.

Then these brake adjusting screws lose their protective coating. And, first thing you know, the adjusting screws, wheels and support brims together to

So... keep an eye on these adjusting parts any time you're servicing the brakes or re-packing the wheel bearings. And check 'em often when the road's sloppy or the weather's raw. Never work till the brake shoe adjusting steel can't be turned. Even by then these screws have had it.

LINE IN TUBS
MADE TO BEAT
OUT RUST

REINFORCED
STEEL



SHOES MADE TO BEAT



WITH THE SHIP FORM TOOL

ADJUST THE SCREW

Any time you get into the bushes... like when you're checking the wheel cylinders or brake linings... give the adjusting screws and wheels a good coat of grease... graphite grease, if you've got it.

Even graphite grease'll need reworking about. The adjusting screws'll need a grease job every six months even with good weather and dry roads. No grease 'em every 1/2 service or whenever if weather and road conditions call for it.

Clean these screws loose from rust and corrosion, you can sometimes improve 'em by spraying with penetrating oil. They can be soaked and cleaned, but it's usually best to replace 'em pronto.



Here's the info you need from Old TIME, 6749 (12 Apr 57) to get new screws and adjusting wheels (grease):

Save adjusting, all links, PIN 202-74-119.
 Save adjusting, right links, PIN 202-74-120.
 Save wheels, adjusting, etc., PIN 123-44-2711.



WHEEL
 SCREWS
 IN THREE
 SIZES



But never throw away the screws you've got unless they're rusted.

Buttons up!

It's tough to keep our wind and rain when the weatherman has your Jeep's curtains on missing.

Buttons are the quick and easy way to replace a few missing buttons in so far as the salvage yard. But new buttons can be had.

QM has 'em, and you get 'em from Columbus General Depot, Columbus, Ohio. Ask for "Fastlane road," 20 NP's-in machine screw stock, PIN 127-821-6818.





JUST THE

Top, the captioned is best as a belly-down's seat.

And a lot of outfit are finding themselves on the short end of the stick when it comes to getting out of the AC-DC, 100-ampere generator systems for their vehicles.

Some like a real new job developed when the 100-ampere deal was released. And now you can't hardly get a lot of hardware store enough when you have the supply system to go along with vehicle outfit for a couple more years.



The way this way gobbled up, it seems that there are more 100-ampere systems being used under the hood of unattended trucks than the trailer will tow, and things have grown to a somewhat 'look'.

Because (as, there isn't no one).

Like the 100V's that authorized the 10's regulation point out, you have to always 'go' to these two means before you can latch on to a generator system.



1. The replacement has an of the vehicle is a 100V.
2. The supply of the most up to date equipment is only if you have a complete system installed for use 100V's.

Right now... a big search is underway to shed a little light on the "Great Generator Kit Mystery"... and it looks like a good one for who is involved as you can see the diagram when it fits the fit.

In... it's a good idea for all 100-ampere users.

1. Check to make sure all vehicles equipped with the kit are ready required and authorized to make queries.
2. Check to make sure all vehicles with "T" behind the 100-ampere generator is in good condition.
3. Substitute from vehicle to when they're needed with the left and right any more is higher frequency.
4. Remove kit from vehicle due to combination or disposal and return to stock or better replacement vehicle.



BARE FACTS



Fast and simple, it boils down to this.

The AC-DC 100-ampere, 20-volt generating system is the best thing to be substituted under circumstances since KEMBA was the best spot on the ground yet. If your vehicle meets the demands of the 100V, you're in good health.

If it's unattended for your work instead of, well, or do you're buying yourself a pocket of profit.

This chart tells you what vehicle with which outfit get the AC-DC 100-ampere generator kit.

MODEL	GENERATOR AND VOLTAGE	TYPE	STATUS
1968-1970 100-amp	100-amp 20-volt AC-DC generator system	100-amp AC-DC generator system	100-amp AC-DC generator system
1971-1972 100-amp	100-amp 20-volt AC-DC generator system	100-amp AC-DC generator system	100-amp AC-DC generator system
1973-1974 100-amp	100-amp 20-volt AC-DC generator system	100-amp AC-DC generator system	100-amp AC-DC generator system
1975-1976 100-amp	100-amp 20-volt AC-DC generator system	100-amp AC-DC generator system	100-amp AC-DC generator system
1977-1978 100-amp	100-amp 20-volt AC-DC generator system	100-amp AC-DC generator system	100-amp AC-DC generator system
1979-1980 100-amp	100-amp 20-volt AC-DC generator system	100-amp AC-DC generator system	100-amp AC-DC generator system
1981-1982 100-amp	100-amp 20-volt AC-DC generator system	100-amp AC-DC generator system	100-amp AC-DC generator system
1983-1984 100-amp	100-amp 20-volt AC-DC generator system	100-amp AC-DC generator system	100-amp AC-DC generator system
1985-1986 100-amp	100-amp 20-volt AC-DC generator system	100-amp AC-DC generator system	100-amp AC-DC generator system
1987-1988 100-amp	100-amp 20-volt AC-DC generator system	100-amp AC-DC generator system	100-amp AC-DC generator system
1989-1990 100-amp	100-amp 20-volt AC-DC generator system	100-amp AC-DC generator system	100-amp AC-DC generator system
1991-1992 100-amp	100-amp 20-volt AC-DC generator system	100-amp AC-DC generator system	100-amp AC-DC generator system
1993-1994 100-amp	100-amp 20-volt AC-DC generator system	100-amp AC-DC generator system	100-amp AC-DC generator system
1995-1996 100-amp	100-amp 20-volt AC-DC generator system	100-amp AC-DC generator system	100-amp AC-DC generator system
1997-1998 100-amp	100-amp 20-volt AC-DC generator system	100-amp AC-DC generator system	100-amp AC-DC generator system
1999-2000 100-amp	100-amp 20-volt AC-DC generator system	100-amp AC-DC generator system	100-amp AC-DC generator system
2001-2002 100-amp	100-amp 20-volt AC-DC generator system	100-amp AC-DC generator system	100-amp AC-DC generator system
2003-2004 100-amp	100-amp 20-volt AC-DC generator system	100-amp AC-DC generator system	100-amp AC-DC generator system
2005-2006 100-amp	100-amp 20-volt AC-DC generator system	100-amp AC-DC generator system	100-amp AC-DC generator system
2007-2008 100-amp	100-amp 20-volt AC-DC generator system	100-amp AC-DC generator system	100-amp AC-DC generator system
2009-2010 100-amp	100-amp 20-volt AC-DC generator system	100-amp AC-DC generator system	100-amp AC-DC generator system
2011-2012 100-amp	100-amp 20-volt AC-DC generator system	100-amp AC-DC generator system	100-amp AC-DC generator system
2013-2014 100-amp	100-amp 20-volt AC-DC generator system	100-amp AC-DC generator system	100-amp AC-DC generator system
2015-2016 100-amp	100-amp 20-volt AC-DC generator system	100-amp AC-DC generator system	100-amp AC-DC generator system
2017-2018 100-amp	100-amp 20-volt AC-DC generator system	100-amp AC-DC generator system	100-amp AC-DC generator system
2019-2020 100-amp	100-amp 20-volt AC-DC generator system	100-amp AC-DC generator system	100-amp AC-DC generator system

The right trigger?

It's a fact, right enough.

If your chosen' type is a .30-cal machine gun, you want to be sure to get the right trigger. And here's how to tell which trigger goes with what gun. The parts that've circled show you the differences.





This was Mike-Horvath with his real corker.

After they had a talk about their annual participation, the event organizer Mike was given a good going over. And it was noticed that the target vehicles were arriving during most of the flight.



The equipment was given a lock-out and it turned out that the resistance in the wiring between the GS-181 M-control indicators which forms was shorting to ground when the upper lock-down shaft was activated. The existing outlet on the shaft had run through the brackets—grounding the K4 wire relay on the control indicator. The lock-out was completed—on all the event recorder channels were seen as.



You can stop this trouble before it starts by making sure the wiring between is as far away from the lock-down shaft as possible.

THE RIGHT SWITCH

"I'll always use a 1/2-inch switch."

There's one good way to start an argument or some like idea.

Just throw out this question: "What problem do you have the selector switch in when you're through using the equalizer?"

Get 10 guys together and maybe don't let any one flip you on. LAUNCHER-DC... a couple'll say LAUNCHER-DC... and the rest'll vote it down the middle by saying they don't know.

What's right?



The guy who says LAUNCHER-DC is right. Launch it LAUNCHER-DC when you're finished.

A few will'll find the ramp to paragraph 11 on page 12 of Chapter 5 in TM 5-41 (1-73) (1-73).



And if you're not an idiot who says you're going to get 11 on page 12 of TM 5-41 (1-73) (1-73) but you can't find the switch in either LAUNCHER-DC or LAUNCHER-DC when you're not using the equalizer—don't LAUNCHER-DC it, prefered when it's used.

SAME SIZE SCREWS

You can put away your pencil and paper.

You don't have to try to figure out how you're going to fix the K₁ in the attaching screws on your training rounds. You're making sound.

Your problem's how to fix the low-level screw when the only tool you have that comes close to being the right size for the job is your precision socket wrench that has a 1/4-in square drive and a 1/4-in hex stock head. This is what you've been using to fix the attaching screws on your medical rounds because these screws have 1/4-in sockets. Right?



WRENCH IS 1/4"
SCREW
WRENCH IS
1/4" OR
1/4" OR
1/4"

Well... the good news is that you can now use the 1/4-in hex attaching screws on your training rounds. And, as you know, they're listed under ESM (500-111-079).

WATCH THOSE TERMINALS



There's one sure way to get your car out of the Mike Hercules acquisition arena: RT coupler laser's just got it in. Just brush against the terminals of the RT each phase of maintenance. Yes!

And, since the terminals are being down to make it easier to do any needed wiring, they're mighty easy to hit accidentally.

So... if you've been lucky enough to keep from getting jolted, keep your back running for you by watching those RT terminals.

NOT NEEDED

You can forget it's even mentioned. Simple reason, that is.

You come across the stuff in paragraph 205a10 in TM 9-416-210-12/1.

According to the section was supposed to be used to clean off certain air passages. But that stuff's gone out the window. So paragraph 205a21 has gone with less change it in the TM copy.

LEAVE THAT...

If you've been using silicone compound on your MSD Igniter... when, huh, stop using it.



The stuff to use is corrosion preventive compound. ESN 8068-100-1124 gets you a compound can from Osh-Kosh name.

It's listed in Osh 7 5041 N-3 for 8/24 guys. And a Hercules supply man wants to mention on his acquisition that the stuff is needed to maintain equipment. That'll get you the compound.

NEW ADAPTER NEEDED



You have an MSL42 Blower. Just make sure with an MSL42 rocket motor. That figure.

Then you have an M17 multimeter. And you have an adapter board with the multimeter that's supposed to work with the rocket motor.

It figures the adapter—it goes by the full handle of spin rocket ignition which was adapter—will work with the connection on the battery support bracket in the rocket motor package.

Ah... but it doesn't. But a different adapter will. That's a guarantee.



FOR 2 IN. ... OF BATTERY FOR 400-400-1141



So you in the adapter that goes under P/N 400-400-1141 and Old P/N 400-400-1141 and you yourself the adapter that's listed this way: P/N 400-400-1141, Old P/N 400-400-1141.

QUESTIONS?



There's a supply of the new adapters on the depot shelves.

YOU WANT TO KNOW

There're three different Nike-Hercules missile battery bus cover assemblies—so you have three different work numbers. And you can tell which one is for your work by the serial number of your missile.

So to see things straight... here's how the assemblies do it with the serial numbers.

Cover number, PN 140-154-001,001-1/2 140-154-001

Cover number, PN 140-154-002,002-1/2 140-154-002

Cover number, PN 140-154-003,003-1/2 140-154-003

serial number 1001 through 1005

serial number 1006 through 1010

serial number 1011 through 1015

and 1016 through 1020.

THEY GO TOGETHER . . .

AN M3 AND ITS MOUNT



You've noticed, haven't you, that when you get one of the M3-series smoke generators you get it complete with a mount.

They're issued that way because the mount (it's called an M2 mount, and you need it for anchoring the smoke generator to a jeep or trailer) is a vital part of the M3. It's supposed to stay with the generator for keeps.

Now this is your nagging so you'll always remember: Whenever the generator travels in the supply channels (lines, trucks, dried-refueler storage), its mount goes also.

Oh, come, when a generator goes in for maintenance and the's scheduled to come back to you or the's to be stored in your unit, the mount doesn't have to tag along . . . but, any other time they stick close together.



SMOKE GENERATOR MOVIES



If you have an M3A1 smoke generator you should know about watching films TP 5-504B and TP 5-504C. You can get loads of maintenance and repair ideas from them.

You can only get maintenance and repair instructions but the new films give step-by-step demonstrations in assembly and disassembly of the M3A1.

Your nearest Signal Corps film and equipment exchange station can get them for you.

QUICK-STARTING CANISTER

Any time you plan to use your M35 oxygen breathing apparatus in cold weather, be sure to swap its regular canister for a quick-starting canister.

The canister you'll need is Canister, Oxygen Breathing (QB) P/N 4748 (1A-1MS). This includes one cold-weather lid which you use with your M35 oxygen mask, and you can depend on it to give you instant oxygen in temperatures below 50°F.

Instructions for wearing the QB can are printed on the side of the canister.

You'll have no trouble in rolling the canister apart. The QB canister is painted green, the M15's regular canister is painted gray.



There's only one catch in this canister swapping deal. The QB canister (which usually goes with the M35 breathing apparatus) does not fit in the M15's carrying case—the lid won't close. So it's a matter of keeping the M15's extra QB canisters stored along with the mask, but not inside its carrying case.

You can get the QB canister through your normal supply channels from: High Army Chemical Center and Chemical Corps Material Command, Army Chemical Center, MD.

JOE'S DOPE

THE ECHOLON SYSTEM FOR MAINTENANCE



FIRST ECHELON

By - **DEE (DRIVER, GUNNER, BLENCHMAN, CREW)**

THE MAIN JOB OF THESE PEOPLE ARE **UPPER**. THEY DRIVE, GUNNY OR OPERATE AND THEY CONSIDERABLE IN MAINTENANCE HOW TO USE EQUIPMENT RIGHT!

THEY DO THE **P.M.** SERVICES... ANY WORK THEY CAN'T DO THEY REPORT TO **SECOND ECHELON!**

COULD THEY BEAT IN **LEFT'S**.

HURRY UP! WE NEED HELP!

RESPONSIBILITY:

Proper operation,
Preventive Maintenance,
Reporting Trouble.

ORGANIZATIONAL

SECOND ECHELON

By - **REPAIRMEN (OPERATIONS, ASSISTANCE, ASSISTANCE)**

THE MAIN JOB OF THESE PEOPLE IS TO BACK UP THE **FIRST ECHELON** BOMB... GUNNY AND KNOW HOW HOW TO DO **FIRST ECHELON** WORK!

BUT THEY DON'T DO **FIRST ECHELON** WORK!

THEY HANDLE **PARTE** REPLACEMENT, BRIDGE REPAIR AND SOMETIMES TO LEAVE A HAND TO HELP WITH OPERATIONS, REPLACE PARTS ACTUALLY WORK OUT, FOLLOW **STOAN** CONCEPT

Target, Repair Only & Necessary

And they do the scheduled and **Exhibit** maintenance services per the **Maintenance Allocation Chart**.

FOLLOW THE PROCEDURE I GUESS! YOU... WORK UP I GUESS! THE **PRICE** MAY RETURN! IT'LL BE UP!

RESPONSIBILITY:

Back up the **Exhibit**, Repair, Repair Parts, Insure, Report other work to higher Echelon. They also work in **USE'S**.

MAINTENANCE

Joe's Dope Sheet

All the other Echelons, Joe,
Keep the FIRST in top shape to go.
They assist and advise —
Do repairs — keep supplies —
With Maintenance smoothing the flow.



WE HAVE THE WORLD'S BEST EQUIPMENT... *Take care of it*

THIRD ECHELON

DIRECT SUPPORT Run By - Your Tech Service

THEY HELP AND SUPPORT IN AND OUT - BY TRAINING, SHOWING AND MAKING SURE IT'S AND DO WHAT THEIR **MAG'S** SAID



*Maintenance Allocation Charts

THEY CAN HANDLE SOME ITEMS, ALSO SEND IN **U&M's**.



Full Extension to Completely Mobile

RESPONSIBILITY:

THEY REPLACE, REPAIR, AND REPAIR AND RETURN THEM.



THEY SHOULD KNOW HOW AS WELL AS STOP PROBLEMS.

THEY WILL DO OTHER WORK, BUT ONLY IN CASES OF EMERGENCY... WE'VE TO GO... BUT A NUMBER OF ITEMS COME IN THE REPAIRS.



Support, Add Lower Echelons
Replaces, Repairs, Returns
Limited Casualties

FIELD

FOURTH ECHELON

GENERAL SUPPORT Run By - Your Technical Services

THESE FOLLOWING PEOPLE AND THE CODES AND APPROVALS... THE FIRST AND SO THE OTHERS... FROM THE THIRD ECHELON.



THEY ALSO CAN CHANGE... REPAIR - IN PART - BACK IN LOCAL STORES.

THEY BACK UP DIRECT SUPPORT.

THEY SEND IN **U&M's**, TOO!

Full Extension to Semi-Mobile

RESPONSIBILITY:

Back up support
Repairs, Put in stock
GENERALIZED

MAINTENANCE

FIFTH ECHELON

Just By—Depot or By Contract

They do major overhaul of end items and rebuild assemblies for stock... — **IBNS*** all the way.

Target: Depot Only. In Inventory

DEPOT MAINTENANCE

RESPONSIBILITY: Major Overhaul, Complete Rebuild

The big difference between field (2nd and 4th Echelon) and depot (5th Echelon) maintenance:

FIELD — **REPAIR*** specific assemblies or components of the end item that have failed or worn out.

DEPOT — This is a **SYSTEMATIC** inspection of all assemblies in the end item and overhaul or rebuild of only those which need to (**IBNS***).

All **ECHELONS:**
USE **M & C**
WIP'S.
KEEP MAINTENANCE
RECORDS.
PURFORM
REGULATIONS.



MAINTENANCE AT
ALL ECHELONS
IS A **COMMAND**
RESPONSIBILITY!



EACH ECHELON
HAS THE SUPPORT
OF THE ONE
ABOVE IT AND
CARRIES THE
ONE BELOW IT.



QUESTION AND ANSWER DEPARTMENT



TANKER PUMP OUTPUT



80 GPM



80 GPM

WARNING: DO NOT REMOVE NOZZLE FROM LINE AT ANY TIME.



Dear Walt Mack,

Change # 11 Jul 79 corrects para 30.5 of TM 9-600 (17 Dec 54) on the Collins-Pen-Moran rating of the gas and water delivery pumps in the M20 gas tanker and the M20 water tanker. The right rating's 80 GPM at 700 RPM.

But what about the rating listed in para 30.5 of the same TM... and also in para 31.11 of TM 9-602-4 (11 Dec 74)? Shouldn't all three be the same?

J. M. E.

Dear J. M. E.

Right on the button. In all three places in these TMs, the delivery pump ratings for the M20 and M20 should read 80 GPM at 700 RPM.

FACE LIFTING

Dear Half-Mast,

Our 17-inch howitzers are towed by M113, M109, cargo trucks by connecting the drawbar and attaching a special draw-draw pin to the truck.

Can you tell us ... is the special draw pin a component of the drawbar or the truck?

REQUIRE AND TRAIL CLAMP
NO. 100 TO THE TRUCK

Major G. W. H.



Dear Major G. W. H.,

The drawbar and trail clamp work as a team when hauling your howitzers and are both properly setup as OEM to the truck ... they're listed on page 118, Section II, TM 9-210-206-12, dated 18-68.

But before you use the setup check with your support unit and see if they have made the latest fix that'll make your coupling job easier. The fix is authorized by MWO 9-210-206-12-7,

dated 18 Jun 61 which replaces the same MWO dated 21 Oct 58.

This issue fix looks like this:



TRUE TO FORM

Dear Sgt. Dyer,

The Engineers never have the maintenance responsibility for mine detectors. So we use DA Form 11-218, Maintenance Check List for Signal Equipment, to record our FM activities or do we use DA Form 404 like we do for other Corps of Engineer equipment.

Dear SFC L. G.,

Since the DA Form 11-218-68 is designed for use with equipment of this type, continue to use it the same as you did when the mine detectors were Sig. and Corps equipment.

SFC L. G.



Sgt. Dyer

SLAVING AWAY



Dear Half-Mast,

Can you slave with all models of the M19 APC?

Could you reverse the polarity of an M41 tank that has four 67M batteries by slaving it with an M19 APC (which has two 67M batteries)?

Which vehicles have their batteries positively grounded and which are grounded at the negative battery terminal?

Where can I find the steps on slaving and slave cables and the way to slave different vehicles?



All models of the M19 APC, early and late, can be used as slave tank when. Don't use them as slave tanks that carry four 67M batteries (unless you absolutely have to) because it is too much of a strain on the two 67M batteries of an APC.

If your slave cable hook-up was right, you wouldn't reverse the polarity of an M41A1 tank by slaving it with an M19 APC. If you had a crossed-up slaving cable, it might drain all the batteries in the circuit, and maybe burn the cable and do other damage—but it wouldn't reverse your tank's polarity, unless, in addition to the crossed-over slaving cable, you also had a G1 ground lead in the tank. If you have the slave cables hooked up right, the only danger is running down the APC's batteries by giving them too tough a job.



All late model marked vehicles have negative ground batteries. This includes the M19 and M19D APC's and the M41 tank series.

TD ORG 1-67 (10 Sept 66) or TD-85 page 10-14 will give you all you need to know about slaving. Follow what they say and you won't have any slaving worries.

SEE GEORGE



Dear Mad-Mat,

I'm trying to find a parts list or supply manual for commercial vehicles like the 1/2-ton M41 and the 1/2-passenger GMC bus.

We have in this command several of these vehicles and need one like yours and will be having you every time we need a part to keep the buses running.

With our vehicle like vehicles, it is important that our buses do not in a good state of ready repair. Any information you can give us will be greatly appreciated.

SFC G. W. B.

Dear SFC G. W. B.,

You'll no longer be able to get an Army supply manual for commercial design vehicles if you've got a vehicle manufactured before 1955.

About the only way you can get a supply manual is to get it direct from the manufacturer or his designated regional service representative.

If you have a commercial design vehicle manufactured during 1955 or 1956, you can get a repair performance by writing to the following address:

COMMERCIAL VEHICLE
REPAIR PERFORMANCE
MANUALS
1000 L. ST., WASHINGTON, D. C.



CABLE GUIDE

Dear Alf, Matt,

Here's how we got rid of the cable snags on the Federal PC-10 crane at our Niles site.

It's made a guide out of 1-in. angle iron and installed it inside the boom pivot weldment directly in front of the boom tipping winch.

Now the cable can't wind around the drum shaft and shear off the ends on the shaft flange end. And it can't slide the drum support shaft so far out that it'll smash the high-pressure hydraulic lines running down next to the drum end to the lower control just under the wind drum.

What do you think of this answer to the problem?



Sp J. T.



If the cable ever does start to over-ride the drum ends, slow down pressure. Then inspect the whole set-up and good to me if the motion roller's lined up right.

This motion roller's mounted on spring steel arms. If it's installed right, the roller'll be in position against the cable and the inside of the cable drum ends to keep the cable from jumping the drum.

Incidentally, this cable snags problem's come up before at other sites. One guy solved it the same way you did, except that he anchored his guide on the outside of the boom pivot weldment.

Dear Sp J. T.,

OK, if you really have a position. But first you want to make sure it's not just an operator running up the steel.

The winch motor's hydraulic-powered, 7½-hp, and is controlled from the driver's seat. The motor speed when you're lowering the load and letting it slow up the cable drum when the load is grounded has the cable over-wind. Then it'll jump the drum ends.

MHE CHOKE (JOB) TROUBLE?



A choke is a choke, sure, but sometimes it can go too far. Like the one on the 2000-lb Yale® Towver RGV™ (M4-BH) forklift. Then you have trouble working it and working on it.

But, why now? Just move the choke from the intermediate panel to the right control and your problem's gone. No more taking up the floor plate to do your PM ... no more crawling like a bear with ... no more 90-degree angles to haul you up.



Here's what you, Ty Choke, need to do next time you have to replace the control assembly:



1. Disconnect the cable at the intermediate location.



2. Remove the floor plate and disconnect the drops leading the cable under the floor. Then replace the floor plate.



3. Disconnect the lower cable at the intermediate panel and pull the entire assembly through the panel.



4. Drill a 1/4" hole in the control panel in the hole of the operator's sitting position—10 1/2 inches from the side and 4 1/2 inches from the top.



5. Put the control assembly through the hole and secure it.



6. Adjust the pullout the manufacturer's call for the right length and lock it. Then anchor fast the choke to the panel.



7. Adjust the cable with the butterfly open.



HYDRAULIC

There's no one keeping the right kind of hydraulic fluid in your world or hydraulic system when you've got the exact oil on hand that your OEM wants. But . . .

. . . things get a bit sticky when your system needs fluid and either you don't have the oil the OEM requires . . . or your OEM doesn't pin down the specific type of fluid.

But, no matter the beginning . . .

All the hydraulic fluids in the supply system, the most widely used are those with a petroleum base. These are mineral oils, and they're never used in brake systems because they're flammable rubber garden and auto. These oils get their biggest use in hydraulic power systems and street and field utility excav systems. There's a problem:



Hydraulic Fluid, Petroleum Base: Fine Control, POB Spec MIL-H-1055A. This is a mineral oil with a pour point of -30 degrees F.

It is not used in most construction excavators or the hydraulic field in some power systems. For instance, it's called for in the elevating and excavating power pack for the 175-ton self-propelled loader and in the hydraulic power pack in the M551 tank in some positions above zero degrees.

In the cold weather this OH is usually replaced by OHA or OHC.



FLUID

Which brings up . . .



Hydraulic Fluid, Petroleum Base: Arctic and Cold-weather (Spec MIL-H-5555A), with modifiers, depending on when the oil was bought. Its military grade is OHA.

OHA comes in only one type. It's red and has a pour point down to -70 degrees F. But it does not have any anti-corrosion additives. It's one of the big guns in the hydraulic line and is used in most systems and other hydraulic systems. It's known as "Pink Lady" because of its color.



With OHA as a starting point, the white-colored one with the one when developed another oil by adding some stuff that gave the oil good anti-corrosion qualities. This oil came out as:



Hydraulic Fluid, Petroleum Base: Preservation (OHC) MIL-H-6000A, Type I.

There is one oil, non-corrosive in an MIL-H-6000A, Type I. But there really is Type I of 5555A and 5555B—see below for the same and they can be used to replace each other, or can be mixed with each other.

And not only that—when the situation makes it necessary, either of those two Type I OHC oils can be mixed with OHA oil. If you do this in a recent mechanism, however, you should replace this mixture with the oil the OEM calls for just as soon as possible. The OHC 555B-180 (Type 181) has the best-drawn-on data.

There's one big exception to the above—do you do the kind you talk see. Some oil called OHC for OHA in the pipe and the hydraulic equipment. Another Type 181, called OHC in what the OEM says.

Another hydraulic oil that gets a lot of use is some of the older type small machinery in "Green Dragon."



This Hydraulic Fluid, Petroleum Base, Special Grade MIL-H-8246A, is quoted in RS.

It, too, can be mixed or interchanged with MIL-H-8246 or MIL-H-8246 Type I on an emergency basis.

Still another hydraulic oil that gets lots of duty around Nike sites is



Hydraulic Fluid, Petroleum Base, Spec. MIL-D-2007.

Nike pump gears and most pumps will only take this MFD or MIL-H-8246A. If you get some other oil in them by mistake, drain and flush to remove.

1. Be sure that you hydraulic system meets it.

2. Double check what oil the MIL calls for.

3. Read the label on the oil container very carefully.

MIL-1-104-1 (Spec. 11) gives you the dope on these and other oils, including the MIL's.

There may have oil with the lower "Q" in the MIL-type instead of "H." Use it. It's the same as the "H."

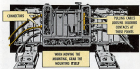
TYPE	GRADE	USES AND CHARACTERISTICS	USING LIMITATIONS
MIL-1-104-1 (Spec. 11)	None	Operating and servicing power pumps, hydraulic power units.	Contains no anti-oxidant additives.
MIL-1-104-1 (Spec. 11) (MIL-D-2007 quoted in RS)	Red	Expensive oil in very old weapons. For gears — 12 degrees. Hydraulic lines, small and hydraulic systems.	No anti-oxidant additives.
MIL-1-104-1 (Spec. 11) (MIL-H-8246A) (MIL-D-2007 quoted in RS)	Red	Used in modified hydraulic systems. Oil "H" can be used to replace oil "F" or vice versa. Red oil can be mixed with oil in an emergency. MIL-H-8246A gives oil in hydraulic power systems where necessary production area.	None. Can do anything MIL-H-8246A possibly permits the system to do.
MIL-1-104-1 (Spec. 11)	Green	Widely used in older type small machinery. Can be mixed with MIL-H-8246 Type I when necessary.	Contains no anti-oxidant additives.



MOUNTING TALE

It's tempting—and almost never the correct thing to do.

Whenever you want to move an MT-204/208 Mounting from here to there—just grab it by the tail, so to speak. You're tempted to pull it by one or more of the connecting cables dangling loose from the junction box. That'll sure enough get the mounting clear, but it could spell trouble for the tail and the mounting ... and you.



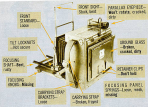
Thing is, these cables carry a mass of wires into the junction box. Each wire, of course, is attached to an inside contact point. Since these contacts are designed only to carry an electrical load, any other kind will break 'em loose and dismount your mounting.

But if the rubber washer inside the cable connector is missing or slipping, the full pull of a yank will ripple right up to those sensitive contact points. The rubber washer, naturally, is designed to snug up and make waterproof that connection. But it also prevents any yanks and jerks from being felt inside the junction box.

So always handle the mounting itself, rather than its cables, whenever it has to be moved. And, whenever a cable is being reinstalled, check to see that the rubber washer inside the connector is snugged into place before tightening up on the housing.

Caution: If there's any horizontal "play" on the cable, your contact points will snag—and that'll be that.





FRONT STANDARD—Lens

FRONT DOOR—Steel, brass

PARALLEL DIAPHRAGM—Wax, rubber, 1/32" hole, 1/16" dia

TILT LOCKNUTS—Not shown

GROUND GLASS—Brass, unhard, 1/16"

FOCUSING SHAFT—Steel, 1/16"

RETAINER CLIPS—Steel, brass

FOCUSING SCREW—Brass

FOCUSING PANEL SPRINGS—Steel, brass, mixing

CARRYING STRAP BRACKETS—Steel

CARRYING STRAP—Steel, brass

FLASHGUN

REFLECTOR MOUNTING SCREW—Mixing, brass, 1/16"

MOUNTING CLAMP SCREW—Steel

REFLECTOR HOOD SCREW—Finger joints, brass, 1/16"

TRIGGER BUTTON SCREW—Steel

REFLECTOR DEPTH SCREW—Mixing, brass, 1/16"

FLASHER—Glass, unhard, 1/16"

FLASHER CYLINDER HOOD—Rubber, spliced electrodes

TRIGGER BUTTON—Steel

BATTERIES—Standard (not shown)



**BULB EJECTION
BUTTON**—Steel

FLASK—
Enamel, brass

**EJECTION
LEVER**—Brass,
steel, nickel

SIDE LIGHTING LIGHT

REFLECTOR HOOD SURFACE—
Inexpensive, drilled, dural

**REFLECTOR HOOD
SCREW**—Brass, loose,
stripped

MOUNTING SCREW—
Brass, loose, stripped

ACCESSORIES



LENS CAP—
Brass

LENS HOOD—
Brass, drilled,
scratched



FILTERS—Flare, r,
scratches, fingerprints,
dirt



WOOD PRODS—Wood
parts cracked, warped, or
alined metal parts damaged
or worn

METAL—Thin parts
stripped, too tight, rub-
ber feet missing



CONNECTING CORD—
Frayed, cut, twisted



CABLE RELEASE—
Steel, twisted,
frayed, stuck



**FOCUSING
CLOTH**—Brass

FILM HOLDER—Side hooks
missing, loose, bent, light
leaks in



**PERFORATED RETAINING
STRIP**—Broken, missing

FILM PACK ADAPTER—Bent,
side missing, damaged, or
in release cloth broken

WIRE STRAP—Frayed,
cut, metal parts broken,
bent or missing



CARRYING CASE—No less,
hinge loose, bent or broken,
metal parts loose, handle
broken or loose

The RS-14 also contains a bypass lamp adapter, a shutter connecting cable, lens clean pads and a filter kit. The adapter should be checked for corroded contacts. PSI for the cable calls for opening links, frays or cuts.

FORMS—SA Form 11-274 should be filled in and kept up to date.

LIKE A LITTLE LADY



When you get right down to it, control pins have a great deal in common with the friends of the opposite sex.

They need a lot of care and attention and you've got to handle 'em just right. And there's just no substitute for their contribution to mankind's well-being and peace of mind.



After all, when a control pin is about doing its job, whatever it's holding isn't going to go flying off when it shouldn't.

But you ignore that little pin and what happens? Trouble, mess, trouble. Like with one flower (H-101) a white lock.

This kind was about to set down when the tail rotor failed. A lot of damage and even more trouble. So

somebody isn't out there with that rotating the nut on the tail rotor pitch control tube. The nut backed off and...



So, never underestimate the power of a control pin. Treat 'em right and they'll stick with you through thick and thin. Ignore 'em—or treat 'em careless (like—and they may go away real-just when you need 'em the most.

FUEL PUMP HOLDER



Dear Windy,

We think this suggestion would be very helpful on any small shop such as ours.

It's a simple jig holding an LIT's fuel pump safely in a vise, while the pump's inlet and outlet fittings are removed, repaired, or adjusted.

Reason a jig is helpful is because gripping the pump by its mounting plate doesn't hold the pump steady enough. And holding the pump itself in a vise is a big mistake because the vise grip can damage or distort the pump body.



Vise damage to the pump may show up immediately—the pump stick will wobble. On the other hand, the defect may not show up until the pump's headlight and you go to check out the engine.

Mounting the fuel pump on the jig provides a good anchor, and there's no danger of vise damage to the pump housing.

J. Stapleton

Aberdeen Proving Ground, Md.



WEATHERID IN



Remember that duck you read about back in PI 102, for reporting Electronic Configurations of your Army aircraft? Well, seems like the flight plan was filed and they were on the wing, but a few weather developments cancelled the

for reporting about Electronic Configurations—it's in the works—but that Supply Bulletin mentioned in PI 102



mission. There's still a mission planned in that direction, but the ETC-and weather are a little unsettled right now.

There sure enough will be a system



may not be working up. And the external system may be somewhat different. In the meantime, scratch what PI 102 said. You'll get the word on the final system sooner—but this time. I'll wait until they file all before I report 'em "on the way!"

WINDY WINDSOCK IS BACK

Windy Windsock, the guy who got his start handling wreathes to the Wright brothers, is returning to his old PI desk to help out with Army Aircraft material. Got a problem, suggestion or idea about aircraft? Just write him.



PLUGGIN' THE HOLES



Dear Windy Windsock

There was time when it got mighty cool flyin' our B-29s (H-29D's) up into the blue yonder ... mighty cool!

We'd want the air vent scoops to fly out to get a direct draft, but it will feel quite uncomfortable.

We made our flight suits cooler with temporary plastic covers for the right vent holes.

These handy self-adhes plastic we cut out and mounted all 14 covers on their

diameter was slightly larger than the vent holes. We used one cover for each hole.

We drilled a 1/4-in. hole thru the center of each cover so they could be matched.

We put one cover on the inside of the door or bubble vent hole, the other on the outside. Then we flattened 'em together with a 1/4-in. screw, a couple flat washers (one for each side), and a nut.



Crew
28th Army Grp
Selfridge AFB, Michigan

NEWS FOR NOSES



You say you're using a Herts 1M, or 20V, compressor to inflate rubber hoses?

And you say the nose on your hose-inflating valve got bogged just about every time you fill a spare of hoses? Then you have to replace the whole valve just to get a new nose!

Well, cheer up, friend, here's good news for noses.

If only the nose of the hose-inflating valve is bogged you can now get a new one. You just get in for Nose Assembly, P/N 4110-342-3716. They cost \$4.99 each.

You won't find it in the parts you—it's just been separated from the whole valve assembly and set up in the supply line.

Just switch a new valve nose for the bogged one, and you're back in the hose-inflating business.

BEWARE THE CRANK!

You want to grab a good hold on the crank before you lower the landing gear on any Boevertown semi-trailer mounted electrical repair shop on the 11777-1 through 11777-45 Series.

The crank's likely to slip when the weight of the landing gear hits it—so grab on good before you trip the no-lose lever.

To be sure nobody gets chattered, install the word on their van just above the crank, like so—



FEEL DAVEY FELTS



Every 250 hours, or every three months—whichever comes first. That's how often you want to service the oil separator in your Davey RFC-11 reciprocating compressor.

In other words, the separator should be a walk-in item on page 7 of the DA Form 404 for your compressor.

Unless you write it in, it's mighty easy to miss servicing the separator—and here's why that shouldn't happen.

The dirty felt in the separator has to be kept in first-class shape to do their job. The compressor draws oil-laden air through the felt as F50 F50 and 15 CFM, so they're busy as hell doing that foiled felt can't handle that kind of load.



The reason that so many oil leaks the felt, they start swelling—and something's got to give. Usually it's the gaskets you wind up with a load of wrap around in the separator.



To head off this trouble, you check the felt at least every 250 hours—and write it in on your bill as a maintenance reminder.

Also, when your Davey's working, eyeball the second stage pressure gage now and again. Any time the gage reads over 300 PSI, it could be a sign of foiled felt in the separator—setting up extra high pressure that shows an overload on the reciprocating compressor.



HOLD YOUR DAMP HORSES!

When a piece of English equipment gets wrapped—by flood, or any other dangerous chalking—you're smart to treat it like the victim of a possible slipping accident.

So you keep help parts off the water switch until you've plainly seen the equipment's in safe shape to operate.

First you check out every place where water, gas or mud/silt might work its way to places where it could short out, or short out, the gear of your rig.



Your check list will depend, of course, on what kind of equipment gets wrapped—but it'll cover all items like these:

Oil Drain	Sparks/Exhaust	Transmission
Oil/Tank	Fuel and Oil Lines	Axle and Hubs
Carburetor	Belt(s)	Wheel Bearings
Ignition	Lock(s)	Steering/Linkage



Now until you get the "all clear" from all possible points of flood damage do you treat up a piece of wrapped equipment.

Otherwise you're likely to run it back into dead line and total overhead—plus probable charges for abuse of equipment.

BLOW YOUR STACK!



You've got to make 'em a dandy-right? A load one, and a dump-one. It's the dandy one you want to wash.

It's the dandy loader stack that loads your dandy those great gobs of air it sends in my alive—even in killing speed.

That's the stack that can load up your whole opera. Downright you blow it out—er push it out—each time you pull the air chamber for "clean and service" maintenance.

Otherwise, it'll slowly choke your dandy-to-dandy with a cube of dirt that builds out from the wall like snow in a chimney.



Not just the enough air, but the clean air. Dirts are like wind socks—they gotta be wide open at both ends.

Choke your man's dumper die. There's just no room for dirt to creep between strokes and rings. Die jams in there and screws down low-headed surfaces to a bread.

In better it chugs up and clothes your dandy, you wash that air wash every time you clean and service the air chamber. Takes just a little time to keep it honest.

Some dandy air washes, in fact, won't wait to choke up over a month of time. When there's a lot of dirt flying they can choke up in a few days. This goes double when air flow is bogged by dirty air cleaner elements, leaky valves, worn rings, fouled mufflers, or kinked piping.

No two ways about it, you want to keep that inside stack clean as a whistle.

DIG OR TRAVEL

No need to get confused over the proper positioning of the transfer case shift lever in your Unit Rig interlocking machine.

The positions are just as plain as the pie on the dash. Follow the directions the same as if the instruction plate was mounted flat behind of you.



TRANSFER CASE
SHIFT LEVER



CONTRIBUTIONS

OIL FILTER WRENCH



Dear Editor,

There is a problem out the 47th miles 5-out trucks. You have to clean the inside of the oil filter every 30 maintenance. To do this you have to use the hand-held adapter holding the oil filter bearings on the engine bearing assembly.

Socket wrench IEM 1120-414-5115 is used for this job. The wrench opening is 1 1/2 inch wide. The adapter is 1 1/4 inch. The wrench is both too small. It won't work.

We made a tool. It will work. It is a piece of pipe 10 1/2 inches long. Inside diameter is 7/8 to 1 inch.



We welded a 1 1/2-inch square drive the way we use now. On the other end we welded a 1 1/4-inch socket. With this you can use any 1 1/2-inch square drive handle.

There are a lot of variations. You can drill holes for a T-bar. You can make your own 1 1/2-inch square drive hole. Just weld one end of the pipe flat and then drill out a 1 1/2-inch square hole.

You could even weld a 1 1/4-inch socket on the 1 1/2-inch opening of the hand socket wrench.



Major Edward Long
Fort Hill, Oklahoma

(Ed Note—Your pipe tool is the best idea for now. Socket wrench IEM 1120-414-5115 (used with the AL12) and 1120-414-5115 (used with the AL12) are the 1 1/2-inch hex tools.)



CAP CARE



Dear Editor,

In many otherwise perfect AG-44 service caps are going toward into obsolescence because of forward-through points that we wonder if you'd sign along this tip.

Your cap'll survive the shelling-bag machine in better shape if you remember to withdraw the stiffener gudgeon first before you wear it. Like so:

1. Remove the straps from the inside.



2. Pull the metal bit out of the bucket.



3. Insert the strap in the bit before using in most situations or less.



Now the cap'll hold the strength to keep from wearing through.

(Ed Note—Full stop.)

12. Officer YourCamp
R. J. National Guard

10-Ton Tire Pressure



Here's the latest wrap on the F80 year 11-ton (M115 and M114) truck drive gas for the different types of terrain they'll travel over. The class's 11.00-16, 28 ply, non-directional, mud and snow types.

Terrain	PSI (Cold)	Temperature When Operated
Level low density	11 PSI (Cold)	Hot over 10.15-20%
Hot, sand, snow	11 PSI (Cold)	Hot only when the ground is extremely soft . . . not over 100%

Get this info recorded onto the dash, engine and body like a map in AR TM 3-1500-1 (10 Mar 60), para 11, para 1, described on page 14 of TM 3-1500-300-1 (14 Feb 61).

And remember this is for normal loads. For lighter or heavier loads, see Table IV in TM 3-1500-1 (18 Feb 61).

BACK SEAT DRIVER

Dear Editor,

About a couple of NC-101 Federal cases, you described an idea which was because the operators didn't know which way their rear (steering) wheels were aimed before they applied power steering, we got it in.

We installed a "weather-ink-bow" (see serial) flag that sits in back, and with the driver which way to steer.

Actually, it's just a tapered steel rod inserted into a nut welded to the vertical steering shaft. The flag turns like a tail with the rear wheels.



Here's how we make it:

1. Get half of a 1/2" piece of 3/16" (or stock) steel round shaft. Put nut on with 1/2" standard thread dia. at the other end and a half-inch tapered piece of pipe over about 4 inches to diameter.



2. Drill a 3/16" hole in the top of the upper shaft for the rod to go through.



3. Inserted a 3/16" rod in to the top of the vertical steering shaft.



4. On another 3/16" rod cut to lock the tail on's it lines up just right with the rear wheels. Just put a rubber grommet where the tail goes through the shaft to prevent vibration.



The flag's "pole" will be long enough so's the shaft can be raised for some minor maintenance checks with no stress. But if the "weather-ink-bow" gets in the way of a bigger job, you can unscrew it in a jiffy. In a real pinch you can even remove this big hexagon nut on top of the vertical steering shaft right over the 1/2" X 1/2" nut you've welded on.

Old Man: The idea's fine, if the operator'll only make sure the indicator's lined up right with the wheels before he starts out. If the indicator's not righted up right or gets loose, the tail could point in the wrong direction—which might lead the vehicle for real trouble. This check should be made part of the before-operation P.M.'s.

Bob Curtis

Barbours, Rowan, Marlinton, W. V.

Connie Rodd's BRIEFS



Tell us no more

Your troubles are over if you've been having a hard time getting Shell Teller oil for your heavy R/C-1 compressor. The word is you can now use Lubri-Ling Oil, General Purpose, AG-1-28867. Instead of the Teller T2 and 11. 850 P-120-277-4241 gets you a gallon from Oit.

Parent jobs outfits...

You know the hydraulic oil pressure fluid filter that's listed on page 48 of TM P-1215-708-218...for your shell handling unit? It shows up under item 4330-248-8871. If you want to get the right filter...ask for item 4330-871-2771. The Ord P/W is the same...8738708.

OK to TM 9-2870

If your unit doesn't have Change 1 to TM 9-2870 in March 61, better ask your publications people for it. There's new info in it about administrative storage, plus more dope on forms and records... plus new info on quarterly maintenance intervals for Army Reserve units.

From little scores...

You want to help protect the exposed attacking tank threats on your hills. Hercules holding beams? They have a way of getting battered when you cool. Just lay the beams or hang it up in some other way. What you want to do is make a local purchase of "wood" mats...like the kind you see on beach plates to keep your hand and the washcloth from tearing up when you wash your tan. Course, you'll need different sizes.

Deemed...not broken

PS 701 had the info on page 1 that Fort Ord was conducting installations giving OPERATION TAPER a try. There's been a change. Fort Ord won't be in on the test of TAPER. Incidentally, the DA TAG letter on TAPER has been followed up by SA Circular 700-15 (2) May 61.

Time for test

Your new jobs will help you see reasons for TM 121-217 and TS P-124 South Jan 61 spell out the dangers of using carbon tetrachloride and list the measures for anyone affected. They also list substitute cleaners.

*Would You Stake Your Life on
the Condition of Your Equipment?*



MAINTENANCE
IS A
COMMAND
RESPONSIBILITY